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10/064,592	07/29/2002	James I. Metzger JR.		5124

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EXAMINER

GOINS, DAVETTA WOODS

ART UNIT PAPER NUMBER

2632

DATE MAILED: 02/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/064,592

Applicant(s)

METZGER, JAMES I.

Examiner

Davetta W. Goins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3 and 6-23 is/are rejected.  
7) ☒ Claim(s) 4 and 5 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lokey (US Pat. 3,785,230).

In reference to claims 1, 6, 9, Lokey discloses a) the claimed non-conducting member defining an opening therein for receiving a saw blade, which is met by a blade guide 12 and shaft 14 on which the blade 13 is mounted; the washers W mounted on the shaft 14 are used to electrically insulate the blade 14 (col. 1, lines 58-63), b) the claimed conductive sensor situated on the non-conducting member adjacent the opening to define a danger zone and monitor circuit configured to detect a change in the capacitance of the sensor to signal a user entry into the danger zone, which is met by an amplifier 15 connected to an antenna 16 positioned close to the blade 13, specifically onto the blade guide 12 (figures 1 and 6), the amplifier 15, discriminator 16 and

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electronic relay 18 with its adjustment knob 19 serve as a capacitance proximity sensor to cause actuating of a bell 20 and a brake solenoid 21 (col. 1, lines 64-68; col. 2, lines 1-6). Although Lokey does not specifically disclose the claimed voltage source for applying a voltage to the sensor, he does disclose the operation of a proximity sensor for actuating a brake and bell 20 upon the position of a finger approaching the blade 13 of the hand saw 11 (col. 1, lines 53-68; col. 2, lines 1-31). Since Lokey discloses an electrical circuit used to detect the change in capacitance and operate the brakes upon detection of a finger, it would have been obvious to one of ordinary skill in the art at the time of the invention that it would be inherent to include a voltage source to provide power to the sensor in order for the device to operate once the saw blade is operated.

In reference to claims 7, 8, 18-20, Lokey discloses the claimed comprising motor control circuit coupled to the monitor circuit for controlling a motor driving the saw blade in response to the change in capacitance, which is met by the capacitance proximity sensor used to actuate a bell 20 and a brake solenoid 21; the blade 113 being driven by an electric motor 115 (col. 2, lines 1-51).

In reference to claims 10-13, although Lokey does not specifically disclose the claimed monitor circuit comprising a bridge circuit coupled to the sensor, wherein the capacitance change misbalancing the bridge, or bridge being coupled to a comparator, or a voltage source comprising an oscillator, he does disclose a blade guide 12 and shaft 14 on which the blade 13 is mounted; the washers W mounted on the shaft 14 are used to electrically insulate the blade 14 (col. 1, lines 58-63), an amplifier 15 connected to an antenna 16 positioned close to the blade 13, specifically

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onto the blade guide 12 (figures 1 and 6), the amplifier 15, discriminator 16 and electronic relay 18 with its adjustment knob 19 serve as a capacitance proximity sensor to cause actuating of a bell 20 and a brake solenoid 21 (col. 1, lines 64-68; col. 2, lines 1-6). Since Lokey discloses an electrical circuit used to detect the change in capacitance and operate the brakes upon detection of a finger, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a bridge circuit coupled to a sensor, to drive the comparator, which is used to detect the level of voltage to determine whether to operate protective measures after detecting capacitively transmitted signals from an object.

In reference to claim 14, Lokey discloses the claimed non-conductive member is receivable by an opening in a work surface, which is met by saw blade 113 mounted on a shaft 114 for a table saw 111 (Figures 7-9).

In reference to claim 15, Lokey discloses the claimed non-conductive member forming a blade guard, which is met by a blade guard 12 (col. 1, lines 53-63).

In reference to claims 16, 21-23, Lokey discloses a) the claimed blade, which is met by blade 113, b) the claimed motor driving the blade, which is met by electric motor 115, c) the claimed table for supporting a work piece with an opening, which is met by table saw 111, d) the claimed non-conducting member defining an opening therein for receiving a saw blade, which is met by the blade 113 mounted on a shaft 114, with insulated washers W; the blade 113 extending through the table (col. 2, lines 32-63; Figures 7-9), and e) the claimed monitor circuit configured

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to detect a change in the capacitance of the sensor to signal a user entry into the danger zone, which is met by an amplifier circuit used to create a capacitance proximity sensor to actuate a solenoid 126 (col. 2, lines 32-63). Although Lokey does not disclose the claimed conductive sensor situated on the non-conducting member adjacent the opening to define a danger zone, he does disclose an amplifier circuit used to create a capacitance proximity sensor to actuate a solenoid 126 (col. 2, lines 32-63). Although Lokey does not disclose the claimed voltage source for applying a voltage to the sensor, he does disclose the operation of a proximity sensor for actuating a brake and bell 20 upon the position of a finger approaching the blade 13 of the hand saw 11 (col. 1, lines 53-68; col. 2, lines 1-31). Since Lokey discloses an electrical circuit used to detect the change in capacitance and operate the brakes upon detection of a finger, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a conductive sensor situated on the insert, as well as include a voltage source to provide power to the sensor in order for the device to operate once the saw blade is operated.

In reference to claim 17, Lokey discloses the claimed alarm circuit coupled to the monitor circuit for activating an alarm in response to the change in capacitance, which is met by a bell 20 and a brake solenoid 21 (col. 1, lines 64-68; col. 2, lines 1-6).

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lokey in view of Harris (US Pat. 4,075,961).

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In reference to claim 2, although Lokey does not specifically disclose the claimed sensor at least partially surrounds the opening, he does disclose the capacitance proximity sensor located near the blade 13 (complete amplifier 15, antenna 16 on blade guide 12; Figure 1). Harris discloses an injury protection device for machinery in which a wire antenna sensor 36 surrounds the area of the needle of a sewing machine 24 to provide a sensor that will detect the operator's finger approaching the needle. The antenna 36 can be shaped and sized to produce any desired field configuration (col. 2, lines 47-68, Figure 1). Since both Lokey and Harris disclose antenna devices that are placed adjacent a machine tool for providing safety as a hand/finger approaches the tool, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of providing a sensor that partially surrounds the opening, as disclosed by Harris, with the system of Lokey, to ensure that the area surrounding the tool creates an area that will detect the most likely place that a finger or hand will come into contact with the tool.

In reference to claim 3, Lokey does not disclose the claimed non-conducting member defines an outfeed end, and wherein a portion of the sensor situated adjacent the outfeed end is enlarged to define an enlarged outfeed danger zone. However, Lokey does disclose an adjustment knob 19 that is used to adjust the area in which a finger is to be detected (col. 2, lines 1-15). Harris discloses an injury protection device for machinery in which a wire antenna sensor 36 surrounds the area of the needle of a sewing machine 24 to provide a sensor that will detect the operator's finger approaching the needle. The antenna 36 can be shaped and sized to produce any desired field configuration (col. 2, lines 47-68, Figure 1). Since both Lokey and Harris disclose antenna

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devices that are placed adjacent a machine tool for providing safety as a hand/finger approaches the tool, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of using any size or shape of a sensor, as disclosed by Harris, with the system of Lokey, in order to provide an infeed or outfeed of any desired shape or size that would allow different sized blades to be used as well allow the user to get within a specified proximity near the blade before the brakes will be applied.

5. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davetta W. Goins whose telephone number is 703-306-2761.

The examiner can normally be reached on Mon-Fri with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 703-308-6730. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9314 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the receptionist whose telephone number is 703-305-7666.



D.W.G.

February 20, 2004

Davetta W. Goins  
Primary Examiner  
Art Unit 2632